

December 17, 2001

Dan Dosmann  
Dec-O-Art, Inc.  
29150 Lexington Park Drive  
Elkhart, IN 46514

Re: Exempt Operation Status,  
**039-14678-00293**

Dear Mr. Dosmann:

The application from Dec-O-Art, Inc., received on July 20, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following, to be located at 29150 Lexington Park Drive in Elkhart, Indiana 46514, is classified as exempt:

One screen printing operation consisting of:

- (a) One (1) Kodamatic 710 dark room Processor;
- (b) One (1) screen making room hydroblaster;
- (c) One (1) printing room including: verbatim
  - (1) three (3) advanced hand vacuum tables,
  - (2) two (2) owner built hand operated tables,
  - (3) one (1) SPE UV reactor,
  - (4) two (2) SVECIA dryers,
  - (5) one (1) SVECIA print master,
  - (6) one (1) SVECIA matic,
  - (7) one (1) M & M Brmatic, and
  - (8) two (2) M & M presses;
- (d) One (1) doming room Domes machine,
- (e) Two (2) 0.2 MMBtu/hr natural gas fired forced air furnaces, identified as Units 2 and 3;
- (f) Three (3) 0.09 MMBtu/hr natural gas fired forced air furnaces, identified as Units 12, 13, and 18;
- (g) One (1) 0.04 MMBtu/hr natural gas fired water heater, identified as Unit 21;
- (h) One (1) 0.08 MMBtu/hr natural gas fired water heater, identified as Unit 22; and
- (i) One 0.04 MMBtu/hr natural gas fired water heater, identified as Unit 23.

The following condition shall be applicable:

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

This exemption shall supersede registration 039-4217-00293, issued on January 24, 1995.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Paul Dubenetzky  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

SDF

cc: File - Elkhart County  
Elkhart County Health Department  
Air Compliance - Paul Karkiewicz and Tony Pelath  
Northern Regional Office  
Permit Tracking - Janet Mobley  
Technical Support and Modeling - Michele Boner  
Compliance Data Section - Karen Nowak

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for an Exemption**

#### **Source Background and Description**

**Source Name:** Dec-O-Art, Inc.  
**Source Location:** 29150 Lexington Park Drive, Elkhart, IN 46514  
**County:** Elkhart  
**Exemption No.:** 039-14678-00293  
**Permit Reviewer:** SDF

The Office of Air Quality (OAQ) has reviewed an application from Dec-O Art, Inc. relating to the conversion of their existing source from a registration to an exemption.

#### **Background**

Dec-O-Art, Inc. has submitted an application to convert their existing source registration to an exemption. In preparing Dec-O-Art's re-registration application, Cornerstone Environmental determined that methylene chloride was counted as a VOC.

Methylene Chloride is no longer used at Dec-O-Art, Inc. Since the source no longer uses methylene chloride, the VOC emissions are reduced to below the applicable registration levels.

Therefore, Dec-O-Art, Inc. has requested that an exemption be approved instead of a re-registration.

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

One screen printing operation consisting of:

- (a) One (1) Kodamatic 710 dark room Processor;
- (b) One (1) screen making room hydroblaster;
- (c) One (1) printing room including:
  - (1) three (3) advanced hand vacuum tables,
  - (2) two (2) owner built hand operated tables,
  - (3) one (1) SPE UV reactor,
  - (4) two (2) SVECIA dryers,
  - (5) one (1) SVECIA print master,
  - (6) one (1) SVECIA matic,
  - (7) one (1) M & M Brmatic, and
  - (8) two (2) M & M presses;
- (d) One (1) doming room Domes machine,

- (e) Two (2) 0.2 MMBtu/hr natural gas fired forced air furnaces, identified as Units 2 and 3;
- (f) Three (3) 0.09 MMBtu/hr natural gas fired forced air furnaces, identified as Units 12, 13, and 18;
- (g) One (1) 0.04 MMBtu/hr natural gas fired water heater, identified as Unit 21;
- (h) One (1) 0.08 MMBtu/hr natural gas fired water heater, identified as Unit 22; and
- (i) One 0.04 MMBtu/hr natural gas fired water heater, identified as Unit 23.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

### **Existing Approvals**

The source has been operating under existing registration 039-4217-00293, issued on January 24, 1995.

### **Enforcement Issue**

There are no enforcement actions pending.

### **Recommendation**

The staff recommends to the Commissioner that the exemption be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on July 20, 2001, with additional information received on October 23, 2001.

### **Emission Calculations**

#### **SOURCE UNRESTRICTED POTENTIAL TO EMIT:**

The following calculations determine the source unrestricted potential to emit based on the properties of the specific materials, the maximum coverage, the maximum solvent usage, 8760 hours of operation, and emissions before controls.

#### **1. Screen Printing Operation Emissions:**

The screen printing operation generates PM, PM10, VOC and HAP emissions. The following calculations determine the UPTE from the units of this operation.

##### **PM/PM10:**

tons PM/yr = lb coat /gal coat \* gal coat/hr \* (1 - wt%VOC) \* (1 - TE) \* 8760 hr/yr \* 1/2000 ton/lb

Material	Coat ID	lb/gal	gal/hr	fraction VOC	1 - TE	PM tons/yr*
ink	GV Gloss Vinyl	8.40	0.068	0.76	0.001	neg.
thinner	140-1776 Retarder	9.42	0.034	1.00	0.001	0.00
cleanup solvent	C 197 Blend	7.75	0.005	1.00	0.001	0.00
cleanup solvent	Isopropyl Alcohol	6.58	0.014	1.00	0.001	0.00
screen cleaning	S-2440	8.05	0.113	1.00	0.001	0.00
screen cleaning	Ultra-Block	8.79	0.005	0.03	0.001	neg.
lensing	S-3504	8.93	0.001	1.00	0.001	0.00
<b>Total</b>						<b>neg.</b>

\* PM10 is determined to be equal to PM.

#### VOC:

Tons VOC/yr = lb coat/gal coat \* lb VOC/lb coat \* gal coat/hr \* 8760 hr/yr \* 1/2000 ton/lb

Material	Coat ID	lb/gal	fraction VOC	gal/hr	VOC tons/yr
ink	GV Gloss Vinyl	8.40	0.76	0.068	1.90
thinner	140-1776 Retarder	9.42	1.00	0.034	1.40
cleanup solvent	C 197 Blend	7.75	1.00	0.005	0.17
cleanup solvent	Isopropyl Alcohol	6.58	1.00	0.014	0.40
screen cleaning	S-2440	8.05	1.00	0.113	3.98
screen cleaning	Ultra-Block	8.79	0.03	0.005	0.19
lensing	S-3504	8.93	1.00	0.001	0.04
<b>Total</b>					<b>8.08</b>

#### HAPs:

lb HAP/hr \* 8760 hr/yr \* 1/2000 ton/lb

HAP	lb HAP/hr	VOC tons/yr
Isophorone	0.18	0.79
Naphthalene	0.008	0.04
Glycol Ethers	0.01	0.04
		<b>0.87</b>

The worst case single HAP UPTE is determined to be 0.79 tons per hour. The combined HAP UPTE is 0.87 tons per hour.

## 2. Combustion Emissions:

The combustion units of this source include 5 forced air furnaces and three water heaters. All the combustion units are natural gas fired and the combined capacity is 0.81 MMBtu/hr.

The following calculations determine the source combustion UPTE based on natural gas combustion, a combined capacity of 0.81 MMBtu/hr, AP-42 emission factors, emissions before controls, and 8760 hours of operation.

$$0.81 \text{ MMBtu/hr} * 8760 \text{ hr/yr} * 1 \text{ E6 Btu/MMBtu} * 1/1000 \text{ cf/Btu} * 1/1 \text{ E6 MMcf/cf} * \text{Ef lb poll/MMcf} * 1/2000 \text{ ton poll/lb poll} = \text{ton poll/yr}$$

	PM 7.6 lb/MMcf	PM10 7.6 lb/MMcf	SO2 0.6 lb/MMcf	NOx 100 lb/MMcf	VOC 5.5 lb/MMcf	CO 84 lb/MMcf
ton/yr	neg.	neg.	neg.	0.40	neg.	0.30

The combined HAP emissions are determined to be negligible.

## Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design.

Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	neg.
PM-10	neg.
SO <sub>2</sub>	neg.
VOC	8.08
CO	0.30
NO <sub>x</sub>	0.40

HAP's	Potential To Emit (tons/year)
Isophorone	0.79
Naphthalene	0.04
Glycol Ethers	0.04
TOTAL	0.87

### Level of Permit

The criteria pollutant UPTE and the single and combined HAP UPTE, each, are less than the applicable exempt levels under 326 IAC 2-1.1-3(d)(1). Therefore, the source is determined to be an exempt source.

### Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment or unclassifiable
SO <sub>2</sub>	attainment or unclassifiable
NO <sub>2</sub>	attainment or unclassifiable
Ozone	maintenance attainment
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all other applicable pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Federal Rule Applicability

#### 1. New Source Performance Standards (NSPS):

There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

#### 2. National Emission Standards for Hazardous Air Pollutants:

There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

## **1. State Rule Applicability - Entire Source**

### **326 IAC 5-1 (Visible Emissions Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

## **2. State Rule Applicability - Individual Facilities**

### **326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants)**

326 IAC 2-4.1 does not apply to the proposed screen printing operation because the single and combined unrestricted potential to emit are less than the respective applicable levels of 10 and 25 tons per year.

### **326 IAC 6-3-2 (Process Operations)**

326 IAC 6-3-2 does not apply to this source because the source is a silk screen operation that utilizes inks and processes that generate negligible particulate emissions.

### **326 IAC 8-2-5 (Paper Coating Operations)**

326 IAC 8-2-5 does not apply to Dec-O-Art inc., because the screening processes are neither web coating or saturation processes.

### **326 IAC 8-5-5 (Graphic Arts Operations)**

326 IAC 8-5-5 does not apply to Dec-O-Art, Inc. because the UPTE (8.08 tons VOC/yr) is less than the applicable level of 25 tons per year.

### **326 IAC 8-1-6 (Best Available Control Technology)**

Although there are no other Article 8 rules that apply, 326 IAC 8-1-6 does not apply to the units of Dec-O-Art, Inc. because the UPTE (8.08 tons VOC/yr) is less than the applicable level of 25 tons/yr.

## **Conclusion**

The operation of this screen printing operation shall be subject to the conditions of the attached proposed exemption 039-14678-00293.